

Claims

1. A colonic overtube for maintaining a section of a colon in a straightened configuration, the overtube having a proximal end for location externally of a colon, a distal end for insertion into a colon, and a colonoscope lumen extending therethrough for passing the overtube over a colonoscope;
- at least portion of the overtube being laterally flexible to facilitate flexing of the overtube substantially without kinking during advancement of the overtube through a colon.
2. An overtube as claimed in claim 1 wherein the laterally flexible portion of the overtube extends along the entire length of the overtube.
3. An overtube as claimed in claim 1 wherein the overtube has more than one laterally flexible portion spaced along the overtube.
4. An overtube as claimed in claim 1 wherein the laterally flexible portion is provided by at least one corrugation.
5. An overtube as claimed in claim 4 wherein the corrugation extends along the overtube in a convoluted manner.
6. An overtube as claimed in claim 4 wherein the corrugation extends at least partially circumferentially around the overtube.

7. An overtube as claimed in claim 4 wherein the overtube comprises a plurality of corrugations.

5 8. An overtube as claimed in claim 4 wherein the corrugation is provided on an interior surface of the overtube.

10 9. An overtube as claimed in claim 1 wherein an exterior surface of the overtube is smooth.

10. An overtube as claimed in claim 1 wherein the overtube comprises a coating of a lubricious material.

15 11. An overtube as claimed in claim 1 wherein the overtube comprises a composite material.

12. An overtube as claimed in claim 11 wherein the overtube is of a layered construction.

20 13. An overtube as claimed in claim 11 wherein the overtube comprises a reinforcement means.

14. An overtube as claimed in claim 13 wherein the reinforcement means is embedded in the overtube.

25

1009553-030002

15. An overtube as claimed in claim 13 wherein the reinforcement means comprises a coil.
- 5 16. An overtube as claimed in claim 13 wherein the reinforcement means comprises a mesh.
17. An overtube as claimed in claim 13 wherein the reinforcement means is of a braided construction.
- 10 18. An overtube as claimed in claim 13 wherein the reinforcement means is of a metallic material.
19. An overtube as claimed in claim 1 wherein the overtube is of a material which is thermally stable in use.
- 15 20. An overtube as claimed in claim 19 wherein the overtube is of polytetrafluoroethylene.
- 20 21. An overtube as claimed in claim 1 wherein the overtube is extendable between a shortened configuration and an elongated configuration for cannulating at least portion of a colon.
- 25 22. An overtube as claimed in claim 1 wherein the overtube comprises a flexible seal at the distal end for sealing between the overtube and a colonoscope extending through the colonoscope lumen.

10092529.030800

23. A colonic overtube for maintaining a section of a colon in a straightened configuration, the overtube having a proximal end for location externally of a colon, and a distal end for insertion into a colon, and a colonoscope lumen extending therethrough for passing the overtube over a colonoscope;

the overtube comprising a flexible seal at the distal end for sealing between the overtube and a colonoscope extending through the colonoscope lumen.

24. An overtube as claimed in claim 23 wherein the seal comprises a film material.

25. An overtube as claimed in claim 24 wherein the seal comprises a sheath of film material.

26. An overtube as claimed in claim 23 wherein the seal comprises an inner sealing layer and an outer sealing layer around the inner sealing layer.

27. An overtube as claimed in claim 23 wherein the seal is mounted to an exterior surface of the overtube.

28. An overtube as claimed in claim 27 wherein the seal extends inwardly to seal between the overtube and a colonoscope extending through the colonoscope lumen.

30. A colonic overtube for maintaining a section of a colon in a straightened  
5 configuration, the overtube having a proximal end for location externally of  
a colon, a distal end for insertion into a colon, and a colonoscope lumen  
extending therethrough for passing the overtube over a colonoscope;

10

- 15

- 20

- the overtube being extendable between a shortened configuration and an elongated configuration for cannulating at least portion of a colon.

34. An overtube as claimed in claim 33 wherein in the shortened configuration at least portion of the overtube is retracted in a concertina-like manner.
- 5 35. An overtube as claimed in claim 33 wherein the overtube comprises a plurality of overtube sections which are movable relative to one another to extend the overtube to the elongated configuration.
- 10 36. An overtube as claimed in claim 35 wherein the overtube sections are releasably mountable to one another to extend the overtube to the elongated configuration.
37. An overtube as claimed in claim 33 wherein the overtube comprises an actuator to extend the overtube in situ to the elongated configuration.
- 15 38. An overtube as claimed in claim 37 wherein the actuator may be activated from externally of a colon.
- 20 39. An overtube as claimed in claim 38 wherein the actuator comprises a connector for extending from the overtube within a colon to a location externally of the colon.
40. An overtube as claimed in claim 39 wherein the connector extends from the distal end of the overtube.

10092523.030002

41. An overtube as claimed in claim 39 wherein the connector is anchored to the overtube.
42. An overtube as claimed in claim 39 wherein the connector comprises a drawstring.
43. An overtube as claimed in claim 42 wherein the drawstring is configured to be looped through a working channel of a colonoscope to a location externally of a colonoscope.
44. An overtube as claimed in claim 1 wherein the overtube comprises a rounded tip at the distal end for atraumatic advancement of the overtube through a colon.
45. An overtube as claimed in claim 44 wherein the tip is mounted to the overtube.
46. An overtube as claimed in claim 45 wherein the tip is mounted to an exterior surface of the overtube.
47. An overtube as claimed in claim 46 wherein the tip extends around the distal end of the overtube at least partially into the colonoscope lumen.

48. An overtube as claimed in claim 1 wherein the overtube comprises at least one exchange lumen for exchange of fluid and/or a medical device through the lumen.
- 5 49. An overtube as claimed in claim 48 wherein the overtube comprises means to view a colon distally of the overtube, the viewing means being at least partially provided in the exchange lumen.
- 10 50. An overtube as claimed in claim 48 wherein the overtube comprises means to insufflate a colon, the exchange lumen providing an insufflation channel.
51. An overtube as claimed in claim 48 wherein the overtube comprises means to flush a colon, the exchange lumen providing a flushing channel.
- 15 52. An overtube as claimed in claim 48 wherein the overtube comprises means to illuminate a colon, the illumination means being at least partially provided in the exchange lumen.
- 20 53. An overtube as claimed in claim 1 wherein the overtube comprises limiting means to prevent complete insertion of the overtube into a colon.
54. An overtube as claimed in claim 53 wherein the position of the limiting means on the overtube is adjustable.

10002526.030802



55. An overtube as claimed in claim 53 wherein the limiting means is releasably mounted to the overtube.
56. An overtube as claimed in claim 55 wherein the limiting means is threadably mounted to the overtube.
57. An overtube as claimed in claim 53 wherein the limiting means comprises a flange.
58. An overtube as claimed in claim 1 wherein the overtube has a discontinuous interior surface for ease of passage of the overtube over a colonoscope.
59. An overtube as claimed in claim 58 wherein the overtube comprises one or more inwardly projecting elements on the interior surface for contacting a colonoscope.
60. An overtube as claimed in claim 59 wherein the projecting element comprises a corrugation.
61. An overtube as claimed in claim 59 wherein the projecting element comprises a protruding strip.
62. An overtube as claimed in claim 60 wherein the projecting element extends longitudinally along the overtube.

63. An overtube as claimed in claim 60 wherein the projecting element extends at least partially circumferentially around the overtube.

5 64. An overtube as claimed in claim 60 wherein the projecting element extends along the overtube in a convoluted manner.

10 65. An overtube as claimed in claim 59 wherein the projecting element comprises a plurality of discrete protrusions.

66. A colonic overtube as claimed in claim 1 for maintaining a sigmoid colon in a straightened configuration.

15 67. A method of performing a colonoscopy procedure, the method comprising the steps of: –

inserting a colonoscope into a colon and advancing the colonoscope through at least part of the colon;

20 straightening a section of the colon;

advancing a colonic overtube over the colonoscope to maintain the section of the colon in a straightened configuration;

1000000.000000

advancing the colonoscope to a point distally of the straightened section of colon; and

5

advancing the overtube over the colonoscope to a point distally of the straightened section of colon.

68. A method as claimed in claim 67 wherein the method comprises the step of withdrawing the colonoscope from the colon while the overtube remains in place in the colon.

10

69. A method as claimed in claim 68 wherein the method comprises the step of advancing a medical device through the overtube to access a point in the colon distally of the straightened section of colon.

15

70. A method as claimed in 67 wherein the method comprises the step of mounting the overtube to the colonoscope before inserting the colonoscope into the colon.

20

71. A method as claimed in claim 67 wherein the overtube is advanced by extending the overtube from a shortened configuration to an elongated configuration.

25

72. A method as claimed in claim 67 wherein the overtube is advanced by pushing the overtube from externally of the colon.

1092523.00000001

ATRO29/C/US

73. A method as claimed in claim 67 wherein the section of colon being  
straightened is the sigmoid colon.
74. A method as claimed in claim 67 wherein the overtube is advanced to a  
point distally of the descending colon.
- 5

1009553-03042